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<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/705,817	DONG ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Sung H. Pak	2874	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 11/15/2005.
2. ☒ The allowed claim(s) is/are 1-10,12,13,16 and 18-20.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| <ol style="list-style-type: none"> <li>1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br/>Paper No./Mail Date _____</li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____</li> <li>7. <input type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____</li> </ol> |
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Sung Pak  
Primary Patent Examiner  
AU 2874

## DETAILED ACTION

### *Response to Amendment*

Applicants' amendment filed 11/15/2005 has been entered, because it puts the case in condition for allowance.

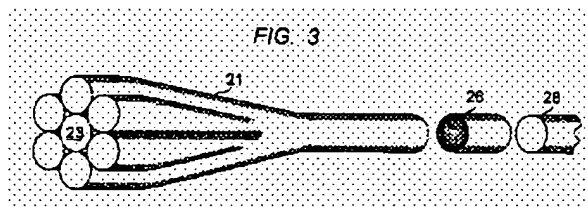
### *Allowable Subject Matter*

Claims 1-10, 12-13, 16, 18-20 are allowed.

The following is an examiner's statement of reasons for allowance:

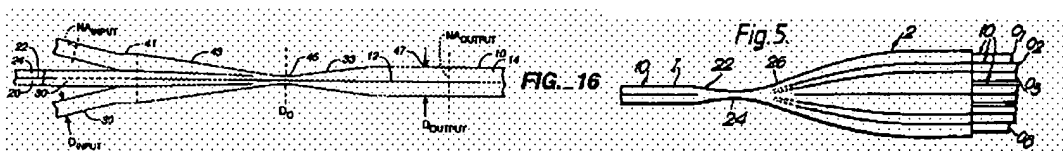
In addition to the allowable subject matter discussed in the previous office action, the examiner respectfully submits that the present application is allowed for the following additional reasons.

As discussed in prior office actions, bundled optical fibers coupled with a single fiber having outer diameter that is at least equal to the bundled fiber is known in the art. DiGiovanni et al. (US Patent 6,970,624 B2) teaches a fiber bundle coupling arrangement wherein additional optical element is used at a location apart from the splice point to modify the optical beam characteristics of the transmitted optical signal (most relevant figure reproduced below). However, DiGiovanni et al. do not disclose any tapering of the single fiber.



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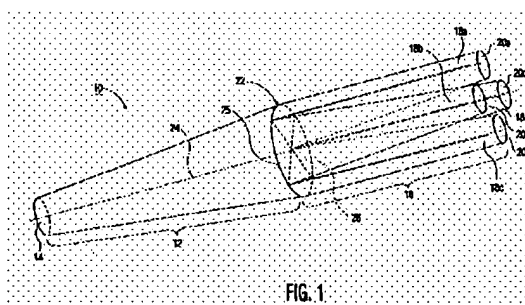
Tapering of the single fiber in fiber bundle coupling arrangement is known in the art as shown in Fidric et al. (US Patent 6,434,302 B1) and Mortimore et al. (US Patent 5,129,021). (Most relevant figures are reproduced below) Nevertheless, these prior art merely discloses tapering of the fiber **at the splice location** and do **NOT** disclose tapering at a location apart from the splice point as claimed in the instant application.



DiGiovanni et al.

Mortimore et al.

A prior art that shares perhaps the closest structural resemblance to the claimed invention is Cassarly et al. (US Patent 6,219,480 B1). (Figure reproduced below)



However, Cassarly et al. does **NOT** disclose the use of a fiber bundle and a single fiber spliced together as claimed in the present application. Cassarly et al. merely teach a single bulk optical material shaped to have a single port on one end and multiple ports on the other end. There is no obvious motivation that would motivate one of ordinary skill in the art to modify the Cassarly et al.'s device to arrive at the claimed invention, as doing so would drastically alter the structure as well as the function of the Cassarly device.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sung H. Pak whose telephone number is (571) 272-2353. The examiner can normally be reached on Monday- Friday, 9AM-5PM.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sung H. Pak  
Primary Patent Examiner  
Art Unit 2874